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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/044,365	01/11/2002	Xiaobao Wang	015114-054910US	8233

26059 7590 03/27/2003

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EXAMINER

CHANG, DANIEL D

ART UNIT	PAPER NUMBER
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2819

DATE MAILED: 03/27/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/044,365

Applicant(s)

WANG ET AL.

Examiner

Daniel D. Chang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 January 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2. 6) ☐ Other:

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Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-28 are rejected under 35 U.S.C. 102(b) as being anticipated by Asano et al. (US 4,719,369, "Asano" hereinafter).

Regarding claims 1 and 2, in figures 1 and 2, Asano teaches an integrated circuit comprising:

a first transistor (20) coupled to an off-chip resistor (22, col. 4, lines 7+);

an analog-to digital converter (30) coupled to the first transistor;

a digital encoder circuit (31) coupled to receive output signals of the analog-to-digital-converter; and

an impedance matching circuit (2-5, 7-10, 12-19) coupled to receive output signals of the digital encoder circuit, wherein the impedance matching circuit comprises a plurality of second transistors (2-5, 7-10) coupled in parallel.

Regarding claim 3, in figures 1 and 2, Asano shows that the impedance matching circuit is coupled in parallel (2-5, 7-10) with an I/O pin (a common output node between transistors 5 and 10) of the integrated circuit.

Regarding claim 4, in figures 1 and 2, Asano shows that the impedance matching circuit is coupled in series (from VDD or GND to I/O pin) with an I/O pin (a common output node between transistors 5 and 10) of the integrated circuit.

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Regarding claim 5, in figures 1 and 2, Asano shows that the impedance matching circuit is coupled to a buffer circuit (1, 6, 11) that is coupled to the I/O pin.

Regarding claim 6, in figures 1 and 2, Asano shows a plurality of impedance matching circuits (1st impedance matching circuit 2-5, 12-15; and 2nd impedance matching circuit 7-10, 16-19) coupled to receive output signals (26, 27) of the digital encoder circuit (a combination of 31 in 24 and 25), wherein the plurality of impedance matching circuits each comprises a plurality of transistors coupled in parallel (2-5 and 7-10).

Regarding claim 7, in figures 1 and 2, Asano shows that the analog-to-digital converter comprises a plurality of comparators (see col. 3, lines 63+; also see fig. 7) that provide the analog-to-digital converter output signals.

Regarding claim 8, in figures 1 and 2, Asano shows that the analog-to-digital converter comprises a plurality of resistors (see e.g. 50, 51 in fig. 3) that set threshold voltages for the plurality of comparators.

Regarding claims 9 and 10, in figures 1 and 2, Asano shows that the plurality of second transistors of the impedance matching circuit comprises four (2-5) or five (1-5) transistors coupled in parallel.

Method claims 11-20 are essentially the same in scope as apparatus claims 1-10 and 21-28 and are rejected similarly.

Claims 21-28 are rejected similarly with claims 1-10. Regarding the limitation, "programmable logic circuitry" in claim 21, it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from

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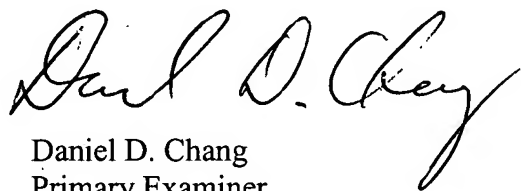
a prior art apparatus satisfying the claimed structural limitations. Ex parte Masham, 2 USPQ2d 1647 (1987).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel D. Chang whose telephone number is (703) 306-4549. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael J. Tokar can be reached on (703) 305-3493. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



Daniel D. Chang
Primary Examiner
Art Unit 2819

DC
March 21, 2003

DANIEL CHANG
PRIMARY EXAMINER